

C L A I M S

WHAT IS CLAIMED IS:

1. An improved leather, comprising:
a leather having an internal matrix; and
a fiber matrix coupled to the leather matrix, the coupling creating a supplementary fiber matrix in the leather which enhances a characteristic of the leather.

2. The improved leather of claim 1 wherein the fiber matrix includes fibers piercing the leather in many locations and interlocking with other fibers both within the internal matrix of the leather and on a first surface of the leather.

3. The improved leather of claim 1 wherein the fiber matrix is in the form of a non-woven batt.

4. The improved leather of claim 1 wherein the coupling includes a multiplicity of fibers of the fiber matrix individually located within the internal matrix of the leather through entry points in a first surface of the leather.

5. The improved leather of claim 1 wherein the improved leather is formed as a two layer composite, the first layer being the fiber matrix in the form of a batt and the second layer being the leather together with a multiplicity of fibers from the fiber

forming the supplementary matrix in the internal matrix of the leather, the multiplicity of fibers forming the supplementary matrix holding the first and second layers together.

6. The improved leather of claim 1 wherein the fiber matrix includes materials in the fibers to enhance tear resistance of the leather.

7. The improved leather of claim 1 wherein the fiber matrix includes materials in the fibers to enhance abrasion resistance of the leather.

8. The improved leather of claim 1 wherein the fiber matrix includes materials in the fibers to enhance temperature regulation of the leather.

9. The improved leather of claim 1 wherein the fiber matrix includes materials in the fibers to enhance far infrared radiation of the leather.

10. The improved leather of claim 1 wherein the fiber matrix includes materials in the fibers to enhance wicking ability of the leather.

11. The improved leather of claim 1 wherein the improved leather is used for gloves, shoes, garments and upholstery.

12. A process for improving leather, comprising:

placing a piece of leather having an internal matrix adjacent to a fiber matrix;

feeding the leather and fiber matrix into a needlepunching machine;

driving some of the fibers from the fiber matrix into the internal matrix of the leather with the needlepunching to form an improved leather with improved characteristics.

13. The process of Claim 12 wherein the process further includes trimming any excess fibers extending out of the surface of the leather opposite to the surface adjacent to the fiber matrix after the fibers are driven through the leather.

14. The process of Claim 12 wherein the needlepunching machine includes a multiplicity of needles with barbs which penetrate the leather and at least a portion of the fiber matrix, grip fibers and then carry the fibers back through the leather when they are pulled back from through the leather.

15. The process of Claim 12 wherein the leather is placed on top of the fiber matrix.

16. The process of Claim 12 wherein the leather is placed under the fiber matrix.

17 A glove made from an improved leather, the improved leather comprising:

a leather having an internal matrix; and

a fiber matrix coupled to the leather matrix, the coupling creating a supplementary fiber matrix in the leather which enhances a characteristic of the leather.

18. The glove of claim 17 wherein the fiber matrix includes fibers piercing the leather in many locations and interlocking with other fibers both within the internal matrix of the leather and on a first surface of the leather.

19. The glove of claim 17 wherein the fiber matrix is in the form of a non-woven batt.

20. The glove of claim 17 wherein the coupling includes a multiplicity of fibers of the fiber matrix individually located within the internal matrix of the leather through entry points in a first surface of the leather.

21. A shoe made from an improved leather, the improved leather comprising:

a leather having an internal matrix; and

a fiber matrix coupled to the leather matrix, the coupling creating a supplementary fiber matrix in the leather which enhances a characteristic of the leather.

22. The shoe of claim 21 wherein the fiber matrix includes fibers piercing the leather in many locations and interlocking with other fibers both within the internal matrix of the leather and on a first surface of the leather.

23. The shoe of claim 21 wherein the fiber matrix is in the form of a non-woven batt.

24. The shoe of claim 21 wherein the coupling includes a multiplicity of fibers of the fiber matrix individually located within the internal matrix of the leather through entry points in a first surface of the leather.

25. A garment made from an improved leather, the improved leather comprising:

a leather having an internal matrix; and

a fiber matrix coupled to the leather matrix, the coupling creating a supplementary fiber matrix in the leather which enhances a characteristic of the leather.

26. The garment of claim 25 wherein the fiber matrix includes fibers piercing the leather in many locations and interlocking with other fibers both within the internal matrix of the leather and on a first surface of the leather.

27. The garment of claim 25 wherein the fiber matrix is in the form of a non-woven batt.

28. The garment of claim 25 wherein the coupling includes a multiplicity of fibers of the fiber matrix individually located within the internal matrix of the leather through entry points in a first surface of the leather.

29. An upholstered item made of improved leather, the improved leather comprising:

a leather having an internal matrix; and

a fiber matrix coupled to the leather matrix, the coupling creating a supplementary fiber matrix in the leather which enhances a characteristic of the leather.

30. The upholstered item of claim 29 wherein the fiber matrix includes fibers piercing the leather in many locations and interlocking with other fibers both within the internal matrix of the leather and on a first surface of the leather.

31. The upholstered item of claim 29 wherein the fiber matrix is in the form of a non-woven batt.

32. The upholstered item of claim 29 wherein the coupling includes a multiplicity of fibers of the fiber matrix individually located within the internal matrix of the leather through entry points in a first surface of the leather.

33. A luggage item made of improved leather, the improved leather comprising:

a leather having an internal matrix; and

a fiber matrix coupled to the leather matrix, the coupling creating a supplementary fiber matrix in the leather which enhances a characteristic of the leather.

34. The luggage item of claim 33 wherein the fiber matrix includes fibers piercing the leather in many locations and interlocking with other fibers both within the internal matrix of the leather and on a first surface of the leather.

35. The luggage item of claim 33 wherein the fiber matrix is in the form of a non-woven batt.

36. The luggage item of claim 33 wherein the coupling includes a multiplicity of fibers of the fiber matrix individually located within the internal matrix of the leather through entry points in a first surface of the leather.